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Before the
FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)
)
Allocation of Spectrum)
below 5 GHz Transferred) ET Docket No. 94-32
from Federal Government Use)

COMMENTS OF LORAL/QUALCOMM PARTNERSHIP, L.P.

Loral/QUALCOMM Partnership, L.P., ("LQP"), hereby submits its comments on the Commission's proceeding concerning reallocation to private sector use of the bands 2390-2400 MHz, 2402-2417 MHz and 4660-4685 MHz.¹ LQP is an applicant to construct GLOBALSTAR, a low-earth orbit satellite telecommunications system (File Nos. 19-DSS-P-91(48) and CSS-91-014) to operate in the RDSS/MSS bands. As LQP is one of several applicants for the 1610-1626.5 MHz and 2483.5-2500 MHz bands, it has a significant interest in the reallocation of additional spectrum for use by current as well as second generation MSS systems.

I. INTRODUCTION

LQP urges the Commission to allocate all of the initial 50 MHz to be made available by the National Telecommunications and Information Administration² for use by mobile satellite service (MSS) systems. These bands can be used for service uplinks and/or downlinks and possibly for feeder links for MSS systems such as GLOBALSTAR.

¹ Notice of Inquiry, ET Docket No. 94-32, FCC 94-97, released May 4, 1994 (Notice).

² See Preliminary Spectrum Reallocation Report, Special Publication 94-27, National Telecommunications and Information Administration, February, 1994.

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The need for this allocation is based on the substantial benefits to be provided by MSS. The Commission, in proposing licensing and service rules for non-geostationary MSS systems, stated that "(T)he (MSS) service ...has significant potential to stimulate economic growth both in the United States and abroad. A potential multi-billion dollar industry will be enabled, creating opportunities for economic growth in a variety of markets and sub-markets."³ This statement demonstrates that MSS is as important to the future telecommunications infrastructures as is Personal Communications Service (PCS). On June 9, 1994, the Commission took decisive action to make available a substantial amount of spectrum for PCS.⁴ The Commission should also move in parallel to identify and allocate additional spectrum for MSS so that MSS systems will be able to extend the national infrastructure to a global infrastructure as envisioned by Vice President Gore and Chairman Hundt.⁵

Spectrum in addition to the 1610-1626.5 MHz and 2483.5-2500 MHz bands would enhance the ability of the current non-GSO systems to meet the goal of extending communications infrastructure. Because systems such as GLOBALSTAR are already designed, with applications pending before the Commission, they could place into use additional spectrum expeditiously. The allocation of additional spectrum for non-GSO MSS uplinks, in particular, would enhance the ability to protect radioastronomy operations and GLONASS (to the extent such protection is required), would facilitate sharing among CDMA systems, and would make available more capacity to the public.

³ Notice of Proposed Rulemaking, 9 FCC Rcd 1094, 1096 (1994) MSS NPRM.

⁴ Memorandum Opinion and Order, FCC 94-144, Gen Docket 90-314, Public Notice (released June 13, 1994).

⁵ See Addresses of Vice President Alfred Gore, Jr. and FCC Chairman Reed E. Hundt to the World Telecommunication Development Conference, Buenos Aires, Argentina (Mar. 21-22, 1994).

LQP has indicated its willingness and ability to operate its service uplink in the 1610-1621.35 MHz band, along with other licensed CDMA MSS systems.⁶ The 1610-1626.5 MHz and 2483.5-2500 MHz bands can accommodate only the initial requirements of the proposed U.S. non-geostationary systems.⁷ In addition, LQP has continued to stress the importance of making available feeder link spectrum below 15 GHz, and preferably below 8 GHz, for systems such as GLOBALSTAR, whose design, architecture and service objectives require such spectrum.⁸ The Commission also is aware of the critical need to identify appropriate feeder link spectrum for these systems.⁹

Beyond the value of additional spectrum for the first generation of non-GSO MSS systems, the Commission should consider this, and other spectrum, for use by the next generation of MSS systems. Even as LQP awaits licensing of its system,¹⁰ it is developing a second generation system concept. In order to expand MSS services and the Global Information Infrastructure (GII), this second generation system will require user link and feeder link spectrum beyond that used in the initial system. Consequently, it is imperative that the Commission move rapidly to identify additional spectrum for MSS, which should include not only the frequencies allocated at the 1992 World Administrative Radio Conference,¹¹ but other frequencies which can be identified as useful and usable for MSS.

⁶ See Comments of Loral/QUALCOMM Partnership, L.P., on the MSS NPRM, filed May 5, 1994, pp. 4-5, 29-30.

⁷ LQP Comments on MSS NPRM, Technical Appendix, Section 1 (filed May 5, 1994).

⁸ Id., pp. 83-96 and Technical Appendix Section 3.

⁹ MSS NPRM, 9 FCC Rcd at 1129-31.

¹⁰ LQP also has filed a Request for Waiver of Section 319(d) (Mar. 30, 1994) to commence ordering long-lead component parts for GLOBALSTAR.

¹¹ See Addendum and Corrigendum to the Final Acts of the World Administrative Radio Conference, Malaga-Torremolinos, Spain (1992).

In the recent Notice of Inquiry concerning preparations for the 1995 World Radiocommunication Conference (WRC-95), the Commission states that at WRC-93 (where the agenda was established for WRC-95), "a major goal of the U.S. delegation...was to facilitate the introduction of worldwide MSS."¹² Reallocation for MSS of the 50 MHz designated for commercial use by NTIA would represent a significant step toward this goal.

II. THE 2390-2400 MHz AND 2402-2417 MHz BANDS SHOULD BE ALLOCATED FOR MSS UPLINKS

The Commission should allocate the 2390-2400 MHz and 2402-2417 MHz bands for MSS uplinks to provide needed capacity on the uplink for MSS systems. The Commission, in its NPRM in CC Docket 92-166, proposes to divide the 1610-1626.5 MHz band between an FDMA/TDMA system and multiple CDMA systems.¹³ LQP generally agrees with the Commission's proposed approach to licensing the pending applications for non-geostationary MSS systems.¹⁴ However, the division of the band, as well as the need to share spectrum by multiple CDMA systems, will reduce capacities of individual systems.¹⁵ In addition, the CDMA systems face other constraints on use in the lower portion of the 1610-1626.5 MHz band, such as the need to protect radioastronomy operations, GPS, and possibly GLONASS.¹⁶ As LQP

¹² See Notice of Inquiry, In the Matter of Preparation for International Telecommunication Union World Radiocommunication Conferences, IC Docket No. 94-31, FCC 94-96, released May 5, 1994, at para. 19.

¹³ MSS NPRM, 9 FCC Rcd at 1110-11.

¹⁴ See supra, note 8.

¹⁵ See Final Report of the Majority of Active Participants of Informal Working Group 1 to the MSS Above 1 GHz Negotiated Rulemaking Committee, Section 5, attached to the Report of the MSS Above 1 GHz Negotiated Rulemaking Committee (April 6, 1993).

¹⁶ See MSS NPRM, 9 FCC Rcd at 1122-24; LQP Comments on MSS NPRM, at pp. 62-72, and Technical Appendix at Sections 2.1-2.2.

moves forward to plan its next generation MSS system, it must consider what spectrum will be available and what capacity can be derived from such spectrum.

On June 9, 1994, the Commission assigned a portion of the internationally-allocated MSS spectrum (1980-1990 MHz) and 10 MHz of the Region 2 allocation (1970-1980 MHz) for PCS.¹⁷ This allocation heightens the need for the Commission to initiate a domestic proceeding to allocate spectrum for MSS¹⁸ and address utilization of the bands made available through the NTIA proceeding as well other appropriate frequencies.

LQP is of the preliminary view that the 2390-2400 MHz and 2402-2417 MHz bands would be of value as MSS uplinks.¹⁹ LQP believes that its MSS uplinks would not be substantially affected by either ISM or Part 15 systems in the bands.²⁰ Use of these bands for services beyond urban areas with cellular service, where non-GSO MSS is likely to find one of its primary markets, could be an excellent use for frequencies which share with ISM and Part 15 systems. However, in the short time allotted for comments in this proceeding, LQP has not had the opportunity to conduct tests as to the impact of ISM or Part 15 systems on MSS uplinks. LQP plans to conduct such tests in the near future and will provide information when available. In addition, LQP will evaluate the ability of MSS systems to operate co-frequency with fixed, mobile and radiolocation systems which may be operating in these bands

¹⁷ See Memorandum Opinion and Order, cited supra, note 4.

¹⁸ See PCSAT Petition for Rulemaking (filed April 7, 1994); Celsat Inc. Amendment to Petition for Rulemaking (filed July 7, 1993); and TRW Inc. Petition for Rulemaking (filed December 8, 1993). All of these petitions request that the Commission initiate a proceeding to allocate additional spectrum for MSS.

¹⁹ Were a choice required, LQP would recommend the 2402-2417 MHz band for MSS.

²⁰ LQP has conducted extensive tests to determine the impact of ISM emissions on MSS downlinks and concluded that the effect is minimal. See LQP Comments at pp. 78-83, and Technical Appendix at Section 2.3.

outside the United States.

III. THE 4660-4685 MHz BAND SHOULD BE MADE AVAILABLE FOR MSS

The Commission, within this proceeding, also seeks proposals for the 4660-4685 MHz band which will be made available immediately for private sector applications. The adjacent spectrum of 4635-4660 MHz is proposed to be made available for commercial use beginning in January 1997.²¹

LQP recommends that the Commission identify the 4660-4685 MHz band for use by MSS, for service links or for feeder links, in either the space-to-Earth or Earth-to-space direction, to be used in conjunction with the 4635-4660 MHz band, when it also is available. Moreover, LQP asks that the Commission work with NTIA to identify additional adjacent spectrum, on the order of 150 MHz, for use by MSS feeder links, if the Commission allocates the 4635-4660 MHz and 4660-4685 MHz bands for feeder links.

LQP, in its Comments on the Department of Commerce spectrum reallocation proceeding, asked that additional spectrum in this band be made available for MSS feeder links.²² LQP hereby incorporates by reference its Comments to the Department of Commerce in this regard. As described therein, the characteristics of C-band make it the most suitable spectrum for feeder links for GLOBALSTAR.

As in the case of the other frequency bands addressed in these Comments, allocating this band for use by MSS would advance the interests of the United States, stimulate economic investment and growth, and enable MSS systems to bring about the Global Information Infrastructure in the near term.

²¹ See, Spectrum Reallocation Report, cited supra at note 2.

²² See LQP Comments, (filed May 11, 1994).

IV. THE COMMISSION SHOULD WORK WITH THE EXECUTIVE
BRANCH TO IDENTIFY ADDITIONAL SPECTRUM FOR
MSS FEEDER LINKS

The Commission, in its role as the manager of commercial spectrum in the United States, has a key opportunity to provide feedback to NTIA during the conduct of its Spectrum Reallocation proceeding. LQP urges the Commission to seek the cooperation of the Department of Commerce and NTIA in working with other federal agencies to identify and make available spectrum for MSS systems, particularly spectrum for feeder links for the first generation systems. Spectrum reallocations should be viewed on a broad basis so that the best use for various segments can be coordinated.

LQP currently has identified the following frequency bands as the principal candidates for feeder links for the GLOBALSTAR system:²³

Uplink 200 MHz from the 5000-5250 MHz band

Downlink 200 MHz from the 6875-7075 MHz band

The 5000-5250 MHz band is allocated to the aeronautical radionavigation band, for use by microwave landing systems (MLS). Recently, the FAA announced that MLS would not be implemented in the United States.²⁴ Europe abandoned its plans for MLS in the 1980s. Very few MLS systems exist worldwide, and non-GSO MSS systems could operate without causing harmful interference to those systems or other aeronautical radionavigation systems which may be installed.²⁵

²³ LQP Comments on MSS NPRM, at p. 90. The proposed use of spectrum at 4635-4685 MHz for feeder links discussed above does not eliminate the need for the bands specified here. There are several MSS systems proposed in the United States and many more proposed by foreign administrations. The Commission and the international community will have to consider and designate a substantial amount of feeder link spectrum to accommodate all the proposed systems.

²⁴ "FAA Won't Develop New Landing System, U.S. Spent 27 Years, \$400 Million on Project," The Washington Post, p. 1-B, June 3, 1994.

²⁵ See Sharing of NON-GSO MSS Feeder-Link Stations with ARNS Stations in the 5 GHz Range, Document 4-5/55-E, May 31, 1994, and Sharing Between MSS Feeder-

The recent international meeting of the ITU-Radiocommunication Task Group 4/5, addressing the subject of MSS feeder links, determined that sharing between MSS feeder links and aeronautical radionavigation, in the band 5000-5250 MHz, is feasible in both the space-to-Earth and Earth-to-space directions.²⁶ With this support, the Commission should work with NTIA and the FAA to make available these frequency bands for MSS feeder links.

V. CONCLUSION

The instant proceeding provides an opportunity for the Commission to address the critical needs of MSS for more spectrum, both for user and for feeder links. It also creates a forum for a dialog on making available feeder link spectrum in the 5000-5250 MHz band as well, for non-GSO MSS systems such as LQP's GLOBALSTAR. LQP urges the Commission to take this opportunity to allocate the 2402-2417 MHz and the 2390-2400 MHz for MSS uplinks, the 4660-4685 MHz band for MSS, either service or feeder links, and to provide input to NTIA concerning the need to make available more spectrum in the 4.5-4.8 GHz and 5.0-5.25 GHz bands for MSS feeder links in the near future.

Links and Aeronautical Radionavigation in the 5000-5250 MHz Band, Document 4-5/57-E, May 31, 1994, presented at the international meeting of ITU-Radiocommunication Sector Task Group 4-5, June 2-10, 1994, Washington, D.C.

²⁶ Draft Liaison Statement to Task Group 8/3 and Working Party [8B or 8C], Document 4-5/TEMP/7 (Rev.1)-E, June 8, 1994.

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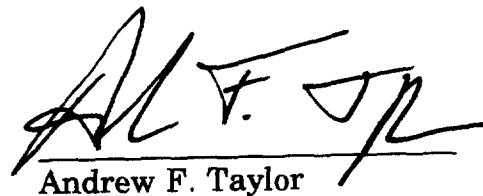
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